

Siraya Tech Fibreheart PPA-CF Core

Black



PRODUCT INTRODUCTION

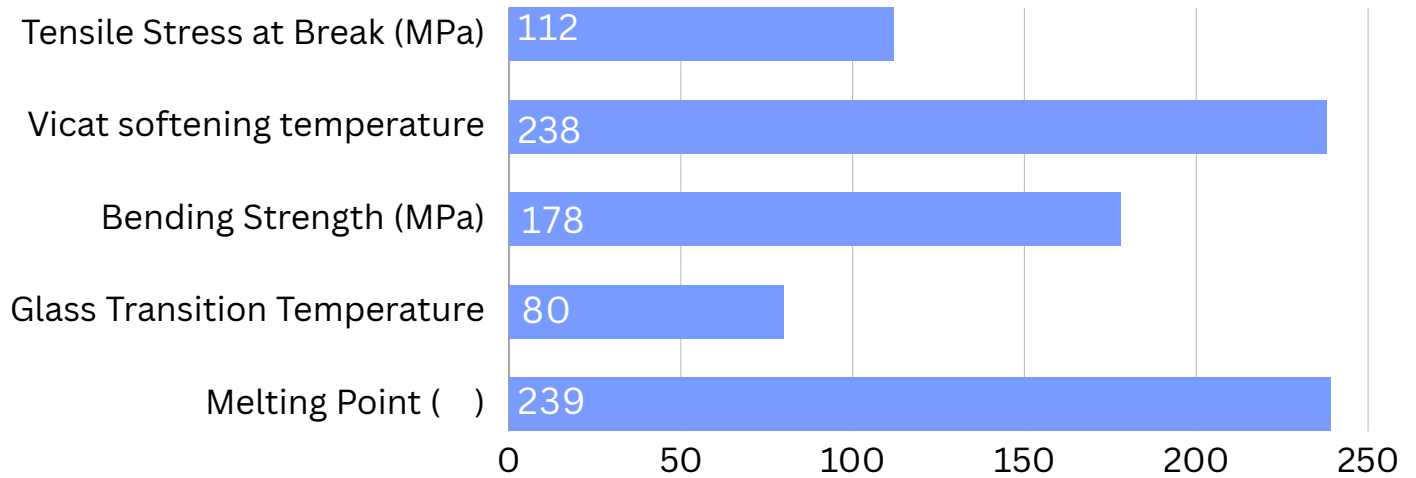
- **Superior Mechanical Properties:** Higher fiber content (25%) enables exceptional strength and stiffness
- **Enhanced Layer Bonding:** Pure resin shell-to-shell contact provides superior Z-axis strength
- **Excellent Dimensional Stability:** Core-shell structure minimizes warping and improves part accuracy
- **Extended Equipment Life:** Reduced wear on nozzles, extruders, and other printer components
- **Easy on the Hand:** Less fiber on the outer shell means less chance for short fiber irritating skin

APPLICATIONS

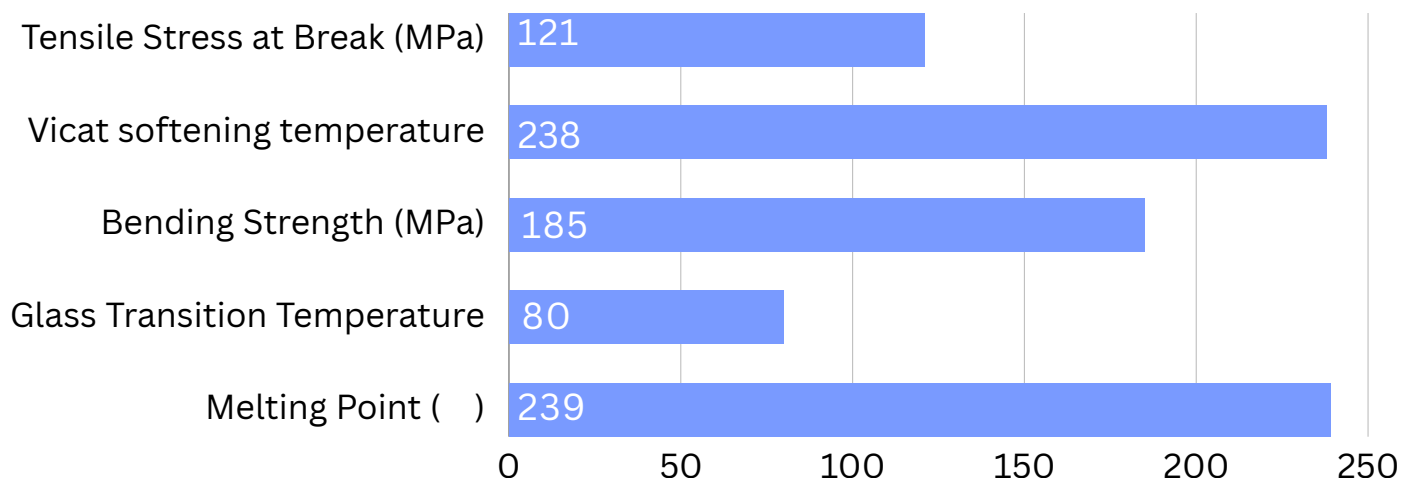
- High-performance mechanical components
- Thin-wall parts requiring exceptional strength
- Heat-resistant applications
- Precision engineering components
- Industrial tooling and fixtures
- Parts requiring superior layer adhesion

Property Data

Unannealed



Annealed



Mechanical Properties	Measure (Unannealed)	Measure (Annealed)	Method
Tensile Stress at Break (MPa)	112	121	ASTM D638
Young's Modulus (MPa)	9300	10220	ASTM D638
Elongation at Break(%)	2.25	1.6	ASTM D638
Charpy impact strength (KJ/m ²)	13.1	7.3	ISO 179
Bending Strength (MPa)	178	185	ISO 178
Bending Modulus (MPa)	8700	9510	ISO 178

Property Data

Other Properties	Measure (Unannealed)	Measure (Annealed)	Method
Vicat softening temperature °C	238	238	ISO 306
Glass Transition Temperature	80	80	ASTM D3418
Melting Point (C)	239	239	ASTM D3418
HDT (°C)	84	126	Method A at 1.80 MPa
HDT (°C)	97	199	Method B at 0.45 MPa
Biocompatibility	Not certified	Not certified	-
Water Absorption Rate (%)	1.09	1.09	ISO 62
Filament Density g/cm ³	1.23	1.23	ISO 1183

Material Specifications	Data
Product Name	PPA-CF Core
Filament Diameter	1.75mm
Color	Black
Specification	1kg
Package Size	8.7 x 8.62 x 3.03 inches
Base material	Polyphthalamide

Work Flow

Preparing for Printing

Nozzle	Hardened steel or higher grade
Nozzle Diameter	0.4-1.0mm
Bed Surface	PEI with Glue Stick or PVP glue coating
Printer Requirements	Printers with at least 12mm thick sealing box (for optimal temperature stability)
Drying Requirements	Ensure the material is dried, only dry if filament shows signs of moisture.
Drying temperature and time	Dry in oven at 80-100°C for 4-6 hours

Print Setting

Nozzle Temperature	280-320°C
Bed Temperature	80°C
Cooling Fans	off
Layer Height	0.2mm (recommended)
Raft Separation Distance	0.08-0.12mm
Print Speed	30-120mm/s
Support Material	Compatible with quick-release support materials
Retraction Distance	1-3mm
Retraction Speed	1800-3600mm/min

Work Flow

Moisture Management

Storage	Content
Storage location	Dry Box
Humidity	Below 15%
Packaging after use	Sealing

Drying requirement	Content
Drying conditions	Dry only if damp
Moisture contamination	Oozing, bubbles, or rough surface finish
Handing	Dry in oven at 80-100°C for 4-6 hours

Contact US

Information	content
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